

**12 March, 16:15-17:45**

**Session Title: Industrial Robotics - Needs and directions**

**Organiser(s):** José Saenz (Fraunhofer IFF); [Jose.saenz@iff.fraunhofer.de](mailto:Jose.saenz@iff.fraunhofer.de)  
 Federico Vicentini (CNR-ITIA) [federico.vicentini@itia.cnr.it](mailto:federico.vicentini@itia.cnr.it)  
 Mark Lewandowski (Procter & Gamble) [lewandowski.ml@pg.com](mailto:lewandowski.ml@pg.com)

**Content:** The objective of this workshop is to update the MAR in the field of Industrial Robots by bringing industry and academia together and discussing and prioritizing future challenges, as well as identifying current barriers to entry. In addition to the invited speakers, members of the audience are invited to submit 1 slide with their opinions regarding needs and directions for industrial robots and will be given 2 minutes for presenting their ideas during the final discussion.

**Agenda of the workshop:**

- 16:15-16:20 – Introduction, Overview goals of workshop – José Saenz
- 16:20-16:35 – Trends in robot hardware design (new shapes and sizes, actuation technologies) and description of industrial pull behind these trends, linking industrial needs for future applications to new developments in robot hardware – Elisabeth Schärtl
- 16:35-16:45 – Industry needs based on experience and risk assessments, SME experiences and perspectives – Mark Lewandowski, Geoff Kerr, Alain Morelli
- 16:45-16:55 – Overview typical collaborative robot applications / potential, examples from risk assessments - Paulo Paolo Pusceddu
- 16:55-17:10 – Status report on EN ISO 10218, ISO TS 15066 Standards, outlook on which standards need to be further refined for pHRI – Björn Matthias
- 17:10-17:20 – Studies in human-robot collision, why are these taking place and what are implications for future research for force and power limiting – Roland Behrens
- 17:20-17:30 – Industrial robot control system needs for speed and separation monitoring – Federico Vicentini
- 17:30-17:45 – Open floor discussion whereby audience can contribute with their long-, medium, and short term needs including 1 slide contributions with individual perspectives

**Speaker(s):** José SAENZ, Fraunhofer IFF, Germany; Elisabeth Schärtl, KUKA, Germany, M. Lewandowski, Procter & Gamble, USA; Geoff Kerr, Procter & Gamble, USA; Alain Morelli, COESIA, Italy; Paulo Paolo Pusceddu, Coesia, Italy; Björn Matthias, ABB AG Forschungszentrum, Germany; Roland Behrens, Fraunhofer IFF, Germany; Federico Vicentini, CNR-ITIA, Italy

**Workshop website link:** [Link to Google Drive Page for Industrial Robots – Needs and Directions](#)